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## Pressure-Waves.

CAZENOVIA LAKE, or more properly "Owahgena," is about four miles long and half a mile wide, situated twelve hundred feet above sea-level. The outlet issues from one corner, and is a deep curved channel. Two hundred feet from the lake an artificial pond connects with the outlet. A dam at the neck of this pond rises to within four inches of the surface of the water. No ordinary waves reach this point, but it affords an unusually good opportunity for observing the long waves that are evidently caused by varying atmospheric pressure, apart from the frictional force that produces the common waves. When the water is perfectly smooth on each side of this dam, which is protected from wind-currents, it flows with such speed over the dam as to show a decided ripple. The flow is alternately in and out of the pond, which has no other opening, and it changes direction about every five minutes. The change of level is from three-quarters of an inch to an inch.

If the speed of this long low wave is the same as the small swells on the lake, ten minutes from crest to crest would indicate that the crests are about one mile apart, — a very long wave with an inch elevation. The phenomenon is regular for hours, and seems to depend very little upon the force of the wind, showing no connection with the wind's direction. If local storms prevail, the energy of this motion is increased very much in excess of the force of the wind felt on the lake.

The variation of atmospheric weight needed to produce this effect would probably be a little less than an ounce to the square foot, or an inch and a half on a water barometer. It suggests a low-tide rise and fall, with eight to ten minute intervals. It would be interesting to know if more skilled observers have given attention to water indications of air-pressure of this kind.

To-day there is ice on the lake two or three inches thick; the wind south, in strong gusts. At the south end, where the wind is offshore, and at a very sheltered point, I notice, at about eight-minute intervals, a rise of the water made evident by the cracking of the crust that connects the ice with the shore, showing that the long wave acts under the ice in the same way as when the lake is open. L. W. LEDYARD.

Cazenovia, N.Y., Feb. 2.

## Influenza.

I LIVE on the Sioux Reservation, thirty-two miles from Fort Yates, the nearest white settlement. We have had a clear cold



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winter, west winds prevailing, few colds, and but little sickness except whooping-cough among children.

Over on the other side of the river, north of this about thirty or forty miles, is a Russian settlement. I have heard continually of late of their having influenza over there. I had no faith in the disease being an epidemic or contagious. A short time ago a few of our Indians went over there trading. We had no signs of the disease here. They returned, and in less than a week one of the families who went were all down with what I thought hard colds. I was called in to treat the cases. In three days, three more strong men were down; and now the whole Indian village is suffering with it, and I am just coming down with it myself. The patients have aching heads, and pain in the side and lungs, the whole body aching as if with ague. They are feverish, troubled with coughing and hoarseness, are restless, and have no appetites, but great thirst. Is it influenza? If so, influenza must be contagious. We have such cold weather, surely disease-germs would not survive; and our winds, being mostly west winds, could not bring disease-germs from the east. This may be of no use to science; but I am so isolated here, — being a missionary among the Indians, and the only white person here, — I thought it might have weight in some direction.

M. C. COLLINS.

Fort Yates, N.Dak., Jan. 24.

## Lightning Discharge.

IN response to invitation in the last number of *Science*, I send description of lightning discharge.

In the summer of 1883, when our present public high-school building was nearly completed, but before the lightning-rods were in place, a carved brownstone "finial" in the form of a double cross, weighing about a hundred pounds, which stood on one end of the roof of the building, was struck by lightning. No trace of the lightning was found on any part of the building below this "finial" stone, which was apparently blown to pieces as effectually as if an ounce of gunpowder had been enclosed in its centre, and fired by electricity. It was just before a thunder-shower, but not a drop of rain had fallen. The writer was within twenty rods of the building at the time, and helped pick up the fragments (all of which have been preserved), which were scattered over a space of thirty feet radius.

Was the cloud negative, and did the positive discharge go upward?

JOSEPH HALL.  
Hartford, Conn., Jan. 29.

## CALENDAR OF SOCIETIES.

## Philosophical Society, Washington.

Feb. 1.—C. Hart Merriam, General Results of a Biological Survey of the San Francisco Mountain Region in Arizona; B. E. Ferron, Forest Influences on Water Supplies.

## Boston Society of Natural History.

Feb. 5.—F. W. Putnam, Early Man in America; S. H. Scudder, Remarks on a Small Collection of Beetles from the Inter-glacial Clays of Scarboro', Ontario.

## Exchanges

[Free of charge to all, if of satisfactory character. Address N. D. C. Hodges, 47 Lafayette Place, New York.]

Wanted—Books and journals, American or foreign, relating to Photography—exchange or purchase. C. W. Canfield, 1,321 Broadway, New York.

Wanted.—Marine univalves of the west coast, from U. S. to southward, and from Pacific Islands, offered; exchange from a general collection. — F. C. Browne, Framingham, Mass., Box 50.

D. E. Willard, Curator of the Museum, Albion Academy, Albion, Wis., will answer all his correspondence as soon as possible. Sickness and death in the family, with many other matters, have prevented his answering as promptly as he should have done.

I will give 100 good arrow heads for a fine pair of wild cattle horns at least two feet long. If you have shorter or other horns write me, and also how many arrow heads you want for them. I will also exchange shells, minerals and arrows. W. F. Lerch, 308 East 4th St., Davenport, Iowa.

I wish to purchase Vol. 7 of the *American Chemical Journal*, either bound or unbound. State price. Address, Wm. L. Dudley, Vanderbilt University, Nashville, Tenn.

A few duplicates of *Murex radix*, *M. ramosus*, *M. brandaris*, *Cassis rufa*, *Harpa ventricosa*, *Oliva tritula*, *O. reticularis*, *Chlorostoma funebrale*, *Cypraea caput serpentis*, *C. lynx*, *Lottia gigantea*, *Acmaea patina*, *Chama spinosa*, and some thirty other species, for exchange for shells not in our collection. List on application. — Curator Museum, Polytechnic Society, Louisville, Ky.

Photographs and Stereoscopic views of Aborigines of any country, and fine landscapes, etc., wanted in exchange for minerals and fossils. — L. L. Lewis, Copenhagen, New York.

Droysen's *Algemeiner Historischer Hand-atlas* (Leipzig, 1886), for scientific books—those published in the *International Scientific Series* preferred. — James H. Stoller, Schenectady, N.Y.

Astronomical works and reports wanted in exchange or to buy. Reports of observations on the planet Neptune and its satellite specially desired. — Edmund J. Sheridan, B.A., 295 Adelphi St., Brooklyn, N.Y.

I would like to correspond with any person having Tryon's "Structural and Systematic Conchology" to dispose of. I wish also to obtain State or U.S. Reports on Geology, Conchology, and Archaeology. I will exchange classified specimens or pay cash. Also wanted a copy of MacFarlane's "Geologists' Traveling Hand-Book and Geological Railway Guide." — D. E. Willard, Curator of Museum, Albion Academy, Albion, Wis.

Morris's "British Butterflies," Morris's "Nests and Eggs of British Birds," Bree's "Birds of Europe" (all colored plates), and other natural history, in exchange for Shakesperiana; either books, pamphlets, engravings, or cuttings. — J. D. Barnett, Box 735, Stratford, Canada.

I have *Anodonta ovalina* (Weatherby), and many other species of shells from the noted Koshkonong Lake and vicinity, also from Western New York, and fossils from the Mound's site of New York, which I would be glad to exchange for specimens of scientific value of any kind. I would also like to correspond with persons interested in the collection, sale, or exchange of Indian relics. — D. E. Willard, Albion Academy, Albion, Wis.

Will exchange "Princeton Review" for 1883, Hugh Miller's works on geology and other scientific works, for back numbers of "The Auk," "American Naturalist," or other scientific periodicals or books. Write. — J. M. Keck, Chardon, Ohio.

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## CATARRH.

## Catarrhal Deafness—Hay Fever.

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Sufferers from Catarrhal troubles should carefully read the above.

## Wants.

*Any person seeking a position for which he is qualified by his scientific attainments, or any person seeking some one to fill a position of this character, be it that of a teacher of science, chemist, draughtsman, or what not, may have the 'Want' inserted under this head FREE OF COST, if he satisfies the publisher of the suitable character of his application. Any person seeking information on any scientific question, the address of any scientific man, or who can in any way use this column for a purpose consonant with the nature of the paper, is cordially invited to do so.*

A YOUNG MAN desires, about the 1st of July, a position as laboratory assistant, or as instructor in chemistry, physics, and lesser mathematics. References as to ability and character. 44 P.M.A. Address R. L. Porter, Penn. Mil. Acad., Chester, Pa.

PRACTICAL CHEMIST, with 10 years' experience in superintending manufacture of oil of vitrol, fertilizers, acetic acid, wood alcohol, etc., is open to an engagement. Best references. P. O. Box 43, Edgewater, Bergen Co., N. J.

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